

HYDROPSYCHE LARVAE (TRICHOPTERA: HYDROPSYCHIDAE)
FROM A LAKE WEEDBED

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Abstract.—In February of 1979, two individual larvae of *Hydropsyche* sp. (Trichoptera: Hydropsychidae) were collected from submerged aquatic plants in Conesus Lake, N.Y. at 1.8 m in depth where they may have survived for as long as ten months. No previous report on these organisms suggests that they occur in such a situation. It is possible that their absence from lake weed beds is due to factors other than simply unfavorable environment.

Published information on the larvae of hydropsychid caddisflies (Trichoptera) generalizes that these organisms are commonly found in lotic waters where they spin nets on the substrate and capture food materials that are carried by the current (Denning 1968; Hynes 1970; MacKay 1978). In Great Britain, hydropsychid larvae are found only in rivers and streams, not in lakes or ponds (Eddington 1968).

In North America, hydropsychid larvae are found in the wave-washed shoreline areas of large lakes. Barton and Hynes (1978) specified that they can manage in standing water if there is sufficient movement to deliver food materials to their nets. These investigators collected specimens from the exposed Canadian shores of the Great Lakes. Much earlier, Ross (1944) reported finding *Hydropsyche recurvata* Banks larvae along the Illinois shore of Lake Michigan, at Evanston, living among the rocks in less than one meter of water. Wiggins (1977) reported finding the same species, along with larvae of the genus *Cheumatopsyche*, along the shore of Lake Winnipegosis in Manitoba, Canada.

On February 19, 1979, I captured two larvae of *Hydropsyche* sp. from a bed of submerged aquatic macrophytes at the Dacula Shores (inlet) area of Conesus Lake, New York. The organisms were found among a sample containing 75% *Heteranthera dubia* (Jacq.) MacM.; 20% *Ceratophyllum demersum* L.; and 5% *Elodea canadensis* Michx. The plants, growing in 1.8 m of water, were collected through the ice by means of a rake. Both larvae appeared to be later instars. To my knowledge, this is the first time these organisms have been reported from such conditions. Between January and August, 1979, monthly collections were made at weedbeds at five separate

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sites on Conesus Lake at depths from 1.5 to 4.0 m. Similar collections were taken from six sites at nearby Honeoye Lake at depths from 2.0 to 3.0 m. *Hydropsyche* larvae were found only in the February 19 collection at 1.8 m at Dacula Shores in Conesus Lake. The general absence of the larvae from the lake vegetation is consistent with the knowledge on the family; the single find is an unusual, but still interesting, event.

Dacula Shores is in the southernmost part of Conesus Lake. Conesus Inlet, the lake's major tributary, empties into this area. Although the inlet is the principal contributor of water to the lake (Forest, Wade and Maxwell 1978), it is sluggish near its mouth and does not appear to offer the type of habitat preferred by Hydropsychidae. Additionally, any hydropsychid larvae among the invertebrate drift (Waters 1965) from the inlet would have ample opportunity to settle in the mouth of the stream well before even entering the lake. Furthermore, the sampling site at Dacula Shores is beyond the zone affected by water movement from the inlet.

The most plausible explanation, then, for the occurrence of typically running water invertebrates in a lake weedbed is that they were carried in from the inlet stream during an episode of unusually high water. Organisms usually do not survive that experience for very long (Dendy 1944). If this is the case, however, the two larvae collected would have survived for up to ten months in the lake environment, to which they are supposedly poorly adapted. The previous high waters would have been in the Spring of 1978.

While one case does not refute the general rule on the ecology of immature hydropsychids, it does offer an interesting note on their survivability, and suggests that similar possibilities should not be overlooked in field studies. If survival under these conditions is more common than previously known, then the absence of hydropsychid larvae from the submerged weedbeds of lakes may be attributed to reasons other than their simple inability to tolerate that kind of environment.

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